REMARKS

Applicant appreciates the Examiner's attention to this application.

This response amends the specification to clarify the cross reference to the related provisional patent application. Also, this response amends claim 18 to make the terminology more consistent, amends claim 19 to remove a duplicate word, and amends claim 21 to clarify that the state changes occur within the debugging host.

This response also verifies that the present amendments and the amendments filed on June 30, 2004 do not introduce any new matter. For example, paragraph 525 of the published application explains as follows: "Debugging, in a coordination-centric approach, is performed using 'cooperative execution.' Cooperative execution refers to simultaneously executing a distributed software environment 4300 and simulating distributed software environment 4300 on debugging host 4306 based on event traces from distributed software environment 4300." Similarly, at paragraph 529, the published application explains as follows: "Debugging host 4306 operates on the events – simulating the activity of distributed software environment 4300 and letting the designer navigate the execution. The bulk of debugging support is thus on debugging host 4306, which reduces the probe effect in distributed software environment 4300."

This response also traverses the rejections in the Office Action. Reconsideration of the present application in view of the enclosed amendments and remarks is respectfully requested.

ARGUMENT

The Office Action includes rejections based on 35 U.S.C. §§ 102(e) and 103(a). Claims 12-29 are the pending claims, and claims 12, 22, 24, and 28 are the independent claims.

35 U.S.C. § 102(e)

The Office Action rejects claims 12-16, 18, 20-26, and 28-29 under 35 U.S.C. § 102(e) as being anticipated by U.S. patent no. 6,470,388 to Frederick Niemi et al. (hereinafter "Niemi"). Applicant respectfully traverses those rejections.

For a valid rejection under 35 U.S.C. § 102, "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." (MPEP § 2131.01, quoting from Richardson v. Suzuki Motor Co., 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)).

The pending claims of the present application pertain to the use of cooperative execution with a debugging host, to debug a distributed software environment. Specifically, claim 12 involves a distributed software environment and a debugging host outside of the distributed software environment. When software programs in the distributed software environment execute, the distributed software environment generates event records and may forward those event records to the debugging host. According to claim 12, the debugging host uses the event records to provide "a simulation of the distributed software environment at the debugging host." Similarly, pending claims 22 and 28 involve a "debugging host" that (a) receives event records from a distributed software environment and (b) simulates the distributed software environment, based at least in part on one or more of the received event records. Likewise, claim 24 pertains to a system for generating event records and forwarding event records to a debugging host, to allow the debugging host to simulate the distributed software environment.

Niemi involves a "centralized logging facility" that collects log records and related information from applications in a network (col. 3, line 61, through col. 4, line 33). This centralized logging facility, however, does not provide a "simulation" of the applications in the network.

The Office Action asserts that Niemi anticipates "providing a simulation of the distributed software environment at the debugging host." In particular, the Office Action asserts that simulation of a distributed software environment is disclosed in FIG. 6 and column 13, lines 44-50 of Niemi. Applicant respectfully traverses.

The term "simulation" has a well established meaning in the field of software. As recognized by the Microsoft Computer Dictionary, Fourth Edition, copyright 1999, "simulation" means the following: "The imitation of a physical process or object by a program that causes a computer to respond mathematically to data and changing conditions as though it were the process or object itself."

The centralized logging facility of Niemi does not respond to log records as though the centralized logging facility were the applications being logged. By contrast, the centralized logging facility of Niemi merely displays the log records and related information that the centralized logging facility receives from the network. Niemi therefore does not disclose "providing a simulation of the distributed software environment at the debugging host."

Furthermore, claim 12 recites that the simulation "includes state changes based at least in part on one or more of the event records received from the distributed software environment." When that feature is considered in conjunction with the proper meaning of the term simulation, it is clear that the "state changes" in the debugging host are actual state changes resulting from execution of the simulation at the debugging host, and not simply log records received from a remote system.

As indicated above, Niemi only discloses displaying information such as log records received from the network. Such information might relate to state changes in the monitored systems. However, information relating to state changes in monitored systems is quite different from actual state changes generated within a debugging host through simulation.

For reasons including those set forth above, Niemi does not anticipate independent claims 12, 22, 24, and 28.

With regard to claim 21, the Office Action asserts that FIG. 6 and column 13, lines 24-40 of Niemi disclose tracking state changes in the simulated environment. Applicant respectfully traverses that assertion. Niemi simply does not disclose a simulated environment. In addition, the response amends claim 21 to clarify that the state changes to be tracked "occur within a simulated environment in the debugging host."

FIG. 6 and column 13, lines 24-40 of Niemi involve a centralized logging facility that simply displays information such as log records received from applications in a network. Those portions of Niemi have nothing to do with simulating a distributed software environment at a debugging host, let alone "tracking state changes that occur within a simulated environment in the debugging host." For these and other reasons, Niemi does not anticipate claim 21.

With regard to claim 13, the Office Action asserts that column 15, lines 38-48 of Niemi disclose "simulating the distributed software environment at the debugging host substantially simultaneously with execution of the first and second software programs in the distributed software environment." Applicant respectfully traverses that assertion.

Column 15, lines 38-48 of Niemi have nothing to do with simulating a distributed software environment at a debugging host. Instead, the paragraph that includes those lines merely indicates that an administrator can set the monitored systems to discard log records by changing "debug object states" in those systems to a "disabled state," and that logging can be enabled "without having to close and restart the subject applications or processes." Thus, those lines of Niemi have nothing to do with simulation. Moreover, they pertain to controlling the "application or process" of a monitored system, rather than controlling operations at a debugging host. For these and other reasons, Niemi does not anticipate "simulating the distributed software environment at the debugging host substantially simultaneously with execution of the first and second software programs in the distributed software environment."

For reasons including those set forth above, Niemi does not anticipate any of the pending claims.

35 U.S.C. § 103(a)

The Office Action rejects claim 17 under 35 U.S.C. § 103(a) as being unpatentable over Niemi in view of U.S. patent no. 6,125,392 to Timothy E. Labatte et al. (hereinafter "Labatte"). The Office Action rejects claims 19 and 27 under 35 U.S.C. § 103(a) as being unpatentable over Niemi in view of U.S. patent no.

5,642,478 to Chin-Huang Chen et al. (hereinafter "Chen"). Applicant respectfully traverses those rejections.

Labatte relates to a method for compressing event log data by compressing multiple events into a single log entry (col. 2, lines 37-42). Chen relates to a debugging facility for tracing "hardware and software faults" in a distributed digital system. Specifically, the debugging facility includes an "event data capture circuit" integrated into each "processing node." The "dedicated trace data acquisition circuits provide continuously available trace data for the hardware and software functions within each node." (Abstract)

As indicated above, Niemi does not anticipate the pending independent claims. In addition, the dependent claims (including claims 17, 19, and 27) inherently include the features of their respective parent claims. Furthermore, Labatte, and Chen say nothing about simulating a distributed software environment at a debugging host. Consequently, even if Niemi were to be combined with Labatte or Chen, the combinations would not render claims 17, 19, and 27 unpatentable.

For reasons including those set forth above, the Office Action fails to make out a *prima facie* case of obviousness for claims 17, 19, and 27.

For these and other reasons, all pending claims are allowable.

CONCLUSION

In view of the foregoing, claims 12-29 are all in condition for allowance.

If the Examiner has any questions, the Examiner is invited to contact the undersigned at (512) 732-3927. Early issuance of Notice of Allowance is respectfully requested.

Respectfully submitted,

Dated:＿12/1/04＿＿＿＿＿＿＿＿＿ / Michael R. Barre /＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

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